

United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,090	09/10/2003	Christopher J. Nagel	2751.2001US2	2724
38473 75	590 06/16/2006		EXAMINER	
ELMORE PATENT LAW GROUP, PC			KOPEC, MARK T	
209 MAIN STREET N. CHELMSFORD, MA 01863			ART UNIT	PAPER NUMBER
			1751	
			DATE MAIL ED: 06/16/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)			
Office A 4' O	10/659,090	NAGEL, CHRISTOPHER J.			
Office Action Summary	Examiner	Art Unit			
	Mark Kopec	1751			
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply					
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 16(a). In no event, however, may a reply be tim ill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	I. lely filed the mailing date of this communication. D (35 U.S.C. § 133).			
Status					
1) Responsive to communication(s) filed on 27 Ma 2a) This action is FINAL . 2b) This 3) Since this application is in condition for allowant closed in accordance with the practice under Expression.	action is non-final. ace except for formal matters, pro				
Disposition of Claims					
 4) ☐ Claim(s) 1-42 is/are pending in the application. 4a) Of the above claim(s) is/are withdraw 5) ☐ Claim(s) is/are allowed. 6) ☐ Claim(s) 1-42 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/or 					
Application Papers					
9) The specification is objected to by the Examiner 10) The drawing(s) filed on is/are: a) access applicant may not request that any objection to the conference of the	epted or b) objected to by the liderawing(s) be held in abeyance. See on is required if the drawing(s) is obj	e 37 CFR 1.85(a). lected to. See 37 CFR 1.121(d).			
Priority under 35 U.S.C. § 119					
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 					
Attachment(s) 1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date	4) Interview Summary Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:				

This action is responsive to applicant's amendment/remarks filed 03/27/06. Claims 1-42 are currently pending.

The amendment to the specification (CON data and XRF figures) is noted.

Affidavits or declarations, such as those submitted under 37 CFR 1.130, 1.131, and 1.132, filed during the prosecution of the prior application do not automatically become a part of this application. Where it is desired to rely on an earlier filed affidavit or declaration, the applicant should make the remarks of record in this application and include a copy of the original affidavit or declaration filed in the prior application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 14-26 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-13 of copending Application No. 10/659,149. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 32-37 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 4-9 of copending Application No. 10/690,050. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claims 27-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 10/690,050. Although the conflicting claims are not identical, they are not patentably distinct from each other because both the instant claims and the claims of copending 10/690,050 are drawn to compositions characterized by XRF reports wherein said composition possess properties relating to the presence of "additional elements".

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 38-42 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-5 of copending Application No. 10/690,391. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Applicant's remarks regarding each of these claim sets are noted (page 9 of the response filed 03/27/06).

Claims 27-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The limitations recited in each of these claims do not find literal or inherent support in the disclosure as originally filed.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, the examiner fails to find support for the newly added limitation "at room temperature". The only description of temperature (as relating to magnetic measurement) appears to be "...at or near 77K" in example 11.

Claims 10-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s),

at the time the application was filed, had possession of the claimed invention.

This rejection is maintained for the reasons set forth in the Rejection mailed 12/20/05 (page 3).

Applicant's remarks regarding this rejection are noted. Specifically, applicant contends that the specification supports the subject matter being claimed in such a way as to teach one of ordinary skill in the art that Dr. Nagel was in possession of the invention at the time the application was filed.

The examiner notes the instant description relating to magnetic properties of the "tailored materials" (i.e. copper) appearing at pages 33-34 and examples 1 and 11-14 of the instant specification. Also, it is recognized that subject matter of the claim need not be described literally (i.e., using the same terms or in haec verba) in order for the disclosure to satisfy the description requirement. However, the examiner respectfully maintains that the instant claim language relating to Gauss readings and "attraction independent of pole" are not disclosed or supported. The instant specification language is not sufficient to show possession of the claimed magnetic limitations.

Claims 1-7, 9-11 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This rejection is maintained for the reasons set forth in the Rejection mailed 12/20/05 (pages 5-6).

Applicant's remarks regarding this rejection are noted.

Note that the rejection over instant claims 9 is withdrawn in view of applicant's amendment. With respect to the remaining claim language, applicant contends that terms such as "substantially" and "essentially" are extensively used in patents and are to be interpreted in light of the specification.

The examiner agrees with applicant's analysis of these claim terms. However, in the instant application, the examiner respectfully maintains that the specification does not provide a standard for determining the degree of the instant terms "substantially free of other metals" (claims 1 and 6), "substantially free of spots of magnetic attraction" (claim 5), "substantially no difference in Gauss readings..." (claim 10), and "essentially zero" (claims 11 and 13). When a term of degree is presented in a claim, first a determination is to be made as to whether the specification provides some standard for measuring that degree. If it does not, a determination is made as to whether one of ordinary skill in the art, in view of the prior art and the status of the art, would be nevertheless reasonably

apprised of the scope of the invention. Even if the specification uses the same term of degree as in the claim, a rejection may be proper if the scope of the term is not understood when read in light of the specification. While, as a general proposition, broadening modifiers are standard tools in claim drafting in order to avoid reliance on the doctrine of equivalents in infringement actions, when the scope of the claim is unclear a rejection under 35 U.S.C. 112, second paragraph, is proper. See In re Wiggins, 488 F. 2d 538, 541, 179 USPQ 421, 423 (CCPA 1973). For example, what amounts/types of metals are permitted by the instant terminology "substantially free of other metals"? What magnetic readings are encompassed by "substantially free of spots of magnetic attraction" (claim 5), "substantially no difference in Gauss readings..." (claim 10), and "essentially zero" (claims 11 and 13)? The examiner respectfully submits that the skilled artisan or potential infringer would be unable to determine the metes and bounds of the claimed invention.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by either Svensson et al (Magnetic and electrical properties of copper-iron...), Dovgopol et al (Magnetic, thermodynamic, and kinetic properties of copper containing 0.4-

2.0 atom% iron impurities), or Campbell et al (A Moessbauer study of the magnetic properties of copper-iron(CuFe) alloys).

This rejection is maintained for the reasons set forth in the Rejection mailed 12/20/05 (page 12).

Applicant's remarks regarding this rejection are noted. Specifically, applicant's discussion of the XRF data and presence of Fe are noted (page 13 of the response filed 03/27/06).

The examiner respectfully submits that the above prior art meets each of the *instantly claimed limitations*.

Applicant is invited to contact the examiner in order to discuss possible claim language which define over the prior art.

Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

This rejection is maintained for the reasons set forth in the Rejection mailed 12/20/05 (pages 6-11).

Applicant's remarks regarding this rejection are noted. Specifically, applicant's discussion of *In re Wands* is noted (pages 11-12 of the response filed 03/27/06).

The examiner respectfully submits that the facts discussed in Wands are substantially different than the instant enablement rejection. Wands relied upon two significant factors not present in the instant application. Specifically, in Wands the rejection relied upon untested/stored samples in order to demonstrate unpredictable/unreliable methods. Additionally, Wands submitted a second declaration (1.132) in order to show that when appellants repeated their procedures they again obtained materials that fit all of their claim limitations. Se Wands, page 1407:

Wands' explanation that the first four attempts at cell fusion failed only because they had not yet learned to perform fusions properly is reasonable in view of the fact that the next six fusions were all successful. The record indicates that cell fusion is a technique that is well known to those of ordinary skill in the monoclonal antibody art, and there has been no claim that the fusion step should be more difficult or unreliable where the antigen is HBsAg than it would be for other antigens.

[2] When Wands' data is interpreted in a reasonable manner, analysis considering the factors enumerated in *Ex parte Forman* leads to the conclusion that undue experimentation would not be required to practice the invention. Wands' disclosure provides considerable direction and guidance on how to practice their invention and presents working examples. There was a high level of skill in the art at the time when the application was filed, and all of the methods needed to practice the invention were well known.

As stated in the instant enablement rejection, the process disclosed in each of the instant inventive examples is nearly identical. The heating/cooling times, temperatures, atmospheres, cycles and carbon source appear to be substantially identical. Of these five examples, only two exhibit any type of

Application/Control Number: 10/659,090

Art Unit: 1751

magnetic activity (examples 11 and 12). Each of examples 1, 13, and 14 are specifically disclosed as exhibiting no (or minimal) magnetic activity. See page 34, lines 25-26; page 69, line 15; page 72, lines 4-6. The examiner respectfully submits that undue experimentation would await the skilled artisan attempting to make the claimed invention. The inventive examples provide evidence that the disclosed process does not result in reproducible magnetic properties for copper metal. As the specification now appears, the skilled artisan would be unable to produce the claimed magnetic copper compositions without undue experimentation.

Page 10

Applicant is invited to contact the examiner in order to discuss possible ways of overcoming the above rejection.

Claims 14-42 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

This rejection is reproduced from copending application 10/690,050 and applied against newly added claims 14-42:

All of the instant claims are drawn to compositions
"characterized by a calibrated Uniquant analysis report wherein
the report recites the presence of an element in the periodic
table in an amount that exceeds the amount of the element
present in the composition" or "characterized by an anisotropic
XRF patter" or "characterized by an XRF analysis that detects

said element". At page 2 of the instant specification, applicant states:

The present invention relates to a new composition of matter comprised of 'p', 'd', and/or 'f' atomic orbitals, and a new process for making the composition of matter. This new composition of matter can be distinguished by a change in energy, electronic properties, physical properties, and the like.

Applicant then defines the terms "zurn" and "isozurn" to characterize a change or shift in electronic structure of matter (page 29 of specification). A composition "characterized by a calibrated Uniquant analysis report wherein the report recites the presence of an element in the periodic table wherein said composition has not been in contact with said element" would have new energy states that are different from conventionally accepted states of energy. It is clear from known principles of physics and chemistry that the instant compositions cannot exist according to conventional scientific theory.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not enable one of ordinary skill in the art to make or use a composition of matter that is

distinguishable from its naturally occurring state, in that it would require undue experimentation to do so. Factors to be considered in determining whether a disclosure would require undue experimentation include, (1) the breadth of the claims, (2) the nature of the invention, (3) the state of the prior art, (4) the level of one of ordinary skill, (5) the level of predictability in the art, (6) the amount of direction provided by the inventor, (7) the existence of working examples and (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

(1) the breadth of the claims

Sine all of the claims require a compositions
"characterized by a calibrated Uniquant analysis report wherein
the report recites the presence of an element in the periodic
table in an amount that exceeds the amount of the element
present in the composition" or "characterized by an anisotropic
XRF patter" or "characterized by an XRF analysis that detects
said element", and it has been shown hereinbefore with respect
to the rejection under 35 U.S.C. 101 for inoperability that such
cannot exist, the claims are not enabled. The question of
whether a specification provides an enabling disclosure under 35
U.S.C. 112, first paragraph, and whether an application

satisfies the utility requirement of 101 are closely related. Process Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1358, 52 USPQ2d 1029, 1034 (Fed. Cir. 1999). To satisfy the enablement requirement of 112, first paragraph, a patent application must adequately disclose the claimed invention so as to enable a person skilled in the art to practice the invention at the time the application was filed without undue experimentation. Enzo Biochem, Inc. v. Calgene, Inc., 188 F.3d 1362, 1371-72, 52 USPQ2d 1129, 1136 (Fed. Cir. 1999). The utility requirement of 101 mandates that the invention be operable to achieve useful results. Brooktree Corp v. Advanced Micro Devices, Inc., 977 F.2d 1555, 1571, 24 USPQ2d 1401, 1412 (Fed. Cir. 1992). Thus, if the claims in an application fail to meet the utility requirement because the invention is inoperative, they also fail to meet the enablement requirement because a person skill in the art cannot practice the invention. Process Control, 190 F.3d at 1358, 52 USPQ2d at 1034.

(2) the nature of the invention

The scientific community has held the belief that matter cannot exist in energy states other than those known in nature.

Accordingly, the nature of the invention is such that it would be startling if it were operative, thus requiring greater detail

and guidance than that found in the instant specification to provide enablement.

(3) the state of the prior art

There appears to be no prior art showing compositions characterized by a calibrated Uniquant analysis report wherein the report recites the presence of an element in the periodic table wherein said composition has not been in contact with said element wherein the underlying electronic structure of mass or matter containing a "p", "d", and/or "f" atomic orbital has been altered.

(4) the level of one of ordinary skill

Since even the most highly skilled physicists would agree that, according to conventional theory, there cannot exist compositions characterized by a calibrated Uniquant analysis report wherein the report recites the presence of an element in the periodic table wherein said composition has not been in contact with said element, the threshold of enablement is not met on pages 1-113 of the instant specification.

(5) the level of predictability in the art

It would be <u>most unpredictable</u> that compositions

"characterized by a calibrated Uniquant analysis report wherein the report recites the presence of an element in the periodic table in an amount that exceeds the amount of the element

present in the composition" or "characterized by an anisotropic XRF patter" or "characterized by an XRF analysis that detects said element" may be produced. (See the reasoning presented hereinbefore with respect to the rejection under 35 U.S.C. 101 for inoperability.

(6) the amount of direction provided by the inventor

It is the examiner's position that applicant has not provided sufficient guidance throughout the specification to enable one of ordinary skill in the art to make and use the instant invention. The instant specification is devoid of direction and guidance necessary to enable the skilled artisan to modify any or every of these properties. Applicant has not set forth any steps or measures which would allow one of ordinary skill to select one of these properties, and modify such by modification of a species zurn. It is the examiner's position that long and tedious trail and error would await any person skilled in the art reading applicant's specification and attempting to modify a composition from it's naturally occurring state.

(7) the existence of working examples

The quantum of proof required to establish enablement is inextricably linked with the degree of unpredictability of the relevant art. In the instant specification, applicant has not

specifically disclosed any working example. It does appear that applicant alludes to compositions "characterized by a calibrated Uniquant analysis report wherein the report recites the presence of an element in the periodic table in an amount that exceeds the amount of the element present in the composition" or "characterized by an anisotropic XRF patter" or "characterized by an XRF analysis that detects said element". However, the examiner respectfully submits that the data produced may disclose the presence of initially undetected defect elements present during sample preparation or heating schedule, or inadvertently present during preparation for analysis.

(8) the quantity of experimentation needed to make or use the invention

The instant description of "Uniquant analysis report" does not enable the skilled artisan to make and/or use the claimed invention. Applicant's description of "Uniquant reports" at pages 22-23 and Table 5 is noted. However, it cannot be determined if different data would result from a different version of the software. The "predictability or lack thereof" in the art refers to the ability of one skilled in the art to extrapolate the disclosed or known results to the claimed invention. If one skilled in the art can readily anticipate the effect of a change within the subject matter to which the

claimed invention pertains, then there is predictability in the art. On the other hand, if one skilled in the art cannot readily anticipate the effect of a change within the subject matter to which that claimed invention pertains, then there is lack of predictability in the art. Accordingly, what is known in the art provides evidence as to the question of predictability. In particular, the court in In re Marzocchi, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971), stated:

[I]n the field of chemistry generally, there may be times when the well-known unpredictability of chemical reactions will alone be enough to create a reasonable doubt as to the accuracy of a particular broad statement put forward as enabling support for a claim. This will especially be the case where the statement is, on its face, contrary to generally accepted scientific principles. Most often, additional factors, such as the teachings in pertinent references, will be available to substantiate any doubts that the asserted scope of objective enablement is in fact commensurate with the scope of protection sought and to support any demands based thereon for proof.

[Footnote omitted.]

Applicant's remarks regarding this rejection are noted.

First applicant's remarks regarding the claimed materials are noted (page 11 of the response filed 03/27/06:

The Applicant respectfully traverses. Firstly, the Applicant is not asserting that new elements are being made in the present application. Without being bound by theory, the Applicant believes that the process imparts upon existing compounds (e.g., copper) which exhibits novel properties. Further, the Examiner need not embrace the Applicant's theories to find the invention patentable. Indeed, not all phenomenons observed in nature are bound or easily explained by "conventional theories." Rode, et al. in Phys. Rev. B, 70, 2004, for example, discusses unconventional magnetism in an all-carbon nanofoam. A copy of this paper is attached for the Examiner to review. The Applicant has presented 14 working examples with detailed XRF analysis that showed each of the manufactured ingots contains a different elemental signature from its corresponding natural occurring metal state. There is no basis to conclude that the result is explained by impurities or from transmutation of metals. The manufactured ingots are still the same starting metal, but exhibit different electronic state scans from their original precursor in the GMS, XRF, PIXE, and GDOES analyses. Confirmation of these analyses from the third party companies for the copper ingot is attached as a 1.132 declaration. Withdrawal of the rejection is respectfully requested.

The 1.132 Declaration of Dr. Nagel has been carefully reviewed. The declaration presents independent testing/confirmation of the claimed copper materials.

The examiner has carefully reviewed the submitted data table (GDSS, XRF-UWO, PIXE and GDOES testing performed by various independent companies).

The examiner agrees that the data appears to disclose independent results verifying the claimed characteristics.

However, it is noted that several claims (14-33) are not limited to the copper material disclosed in the 1.132 Declaration.

Additionally, the examiner respectfully submits that applicant's statement (in the 1.132 Declaration) "I am attaching an Excel spreadsheet of the data obtained from the following third party companies of the manufactured copper ingot (14-00-01) presented

in the application" is insufficient for a complete determination to be made regarding the experimental procedures relied upon in the declaration. Specifically, it is unclear if the tested sample (14-00-01) is an ingot disclosed in the specification example(s), or if such was made according to the disclosed process. Applicant should detail the procedure utilized to produce sample 14-00-01. Additionally, applicant should provide a detailed description of the various testing relied upon in the 1.132 Declaration (GDSS, XRF-UWO, PIXE and GDOES testing performed by various independent companies). The 1.132 Declaration does not contain sufficient data relating to the testing procedures utilized by the "third parties" to make a complete determination of the results.

Applicant is invited to contact the examiner in order to discuss possible ways of overcoming the above rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

Application/Control Number: 10/659,090

Art Unit: 1751

of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Page 20

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Kopec whose telephone number is (571) 272-1319. The examiner can normally be reached on Monday - Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on (571) 272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number: 10/659,090 Page 21

Art Unit: 1751

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mark Kopec
Primary Examiner
Art Unit 1751

MK June 12, 2006